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TITLE: Field Evaluation of Lethal Ovitrap Against Dengue Vectors

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<b>13. ABSTRACT (Maximum 200 Words)</b>  The goal of this study was to determine the efficacy of the lethal ovitrap (LO), an inexpensive, environmentally sound device designed to be integrated with existing control programs in the suppression of dengue mosquito vector populations in Barbados, East Timor and India. A site visit to Barbados to coordinate with Barbados Ministry of Health (MOH), in collaboration with the Pan American Health Organization (PAHO), was done in January 2002. Protocol development and coordination with Dr. Das, Director, Vector Control Research Center in India for tests in India, in collaboration with the World Health Organization (WHO), were done in early 2002. Neither field test was started due to sudden lack of support by Barbados MOH and because of disputes between India and Pakistan for the test in India. With a no cost extension tests are planned for in 2003 in Bangladesh (substitute for India) and an alternate Caribbean island is being coordinated with PAHO (substitute for Barbados). The Walter Reed Army Institute of Research (WRAIR) could not provide results to the Louisiana State University AgCenter for analysis from proposed tests in East Timor, because the Australian Army was not able to conduct planned tests of LO in East Timor.				
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**INTRODUCTION:** Ovitrap have been used to effectively sample dengue mosquito vector populations, particularly *Aedes aegypti* for over a decade. Modifying a standard ovitrap by incorporating an insecticide would result in a lethal ovitrap (LO) that could be used as an inexpensive, environmentally sound dengue vector suppression method. These lethal ovitraps could be integrated into existing control programs, such as community based clean-up campaigns that focus on the reduction on mosquito breeding sites. The objectives of this study were to determine the efficacy of lethal ovitrapping in suppression of dengue mosquito vector populations in Barbados, East Timor and India.

**BODY:** Protocols and coordination with the Pan American Health Organization (PAHO) for Barbados and with the World Health Organization (WHO) for India, were completed in January 2002. A site visit to Barbados to coordinate with the Barbados Ministry of Health (MOH), in collaboration with PAHO and field site selection were done in late January 2003. The Barbados MOH personnel, including the Minister of Health himself agreed to the testing the LO in Barbados with the protocol provided, which was the approved protocol for this contract. Field equipment (dissecting microscope & back-pack aspirator) along with ovitrap cups and treated strips were sent to Barbados in early March for a proposed start date in April. Prior to any pre-treatment sampling, the Barbados MOH began to hedge on start date. After several months of trying to negotiate with the MOH through PAHO all attempts to initiate the project in Barbados were stopped. Through PAHO an alternative Caribbean island for field-testing of the LO in 2003 being considered with the start date to coincide with the dengue vector season there.

Coordination with Dr. Das, Director of the Vector Control research Center in India for field-testing of the LO in India was initiated in February 2002. Slight modifications to the protocol were sent to Dr. Das. Dr. Perich and Dr. Das agreed to start in July/August 2002, at the beginning of the dengue vector season in southern India. Prior to initiation of this test of the LO in India, disputes between India and Pakistan interrupted any further work in India. Again in collaboration with W.H.O., an alternative site in this region, (Bangladesh) was identified with help from Jahangirnagar University in Dhaka, Bangladesh.

Dr. Perich and the Louisiana State University AgCenter could do no compiling or analysis of the data from the results of LO testing in East Timor, because no data were provided to them from the Walter Reed Army Institute of Research (WRAIR). This was due to fact that the Australian Army, was unable to do the testing of the LO in East Timor.

#### **KEY RESEARCH ACCOMPLISHMENTS:**

- Protocols were developed and approved for testing the LO in Barbados and India
- Coordination with PAHO for tests in Barbados and with WHO for tests in India were completed.
- Site visit to select field sites for testing the LO in Barbados and coordination with Barbados MOH was done

#### **REPORTABLE OUTCOMES:** None

**CONCLUSIONS:** With the failure to be able to start the LO testing in Barbados, an alternative Caribbean island for testing the LO in 2003, coordinated through PAHO is being done. An alternative site for India, for testing the LO in that region has been initiated with Jahangirnagar University for tests in Bangladesh. Both tests of the LO at the two alternate sites have been discussed with MAJ Brian Gentile, the LO product manager at the U.S Army Medical Materiel Development Activity (USAMMDA) and he is in agreement with the no cost extension and the alternate site testing of the LO.